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ABSTRACT

This paper addresses the issue of how one might go about providing a reasonable answer to the question of how many students will enroll in a new academic program at a university and applies the principles to the process of estimating demand for a new collegiate aviation program. A combination of approaches is suggested, including the following: (1) potential enrollee "concept" interest survey; (2) analogy to similar program introductions; (3) underlying student enrollment trend analysis; and (4) survey of expert opinion. It is noted that while such methods may provide the new course proponents with a theoretically "neat" package of estimates and probability range it is still suggested that the actual course signup is mainly the result of marketing follow-up. Contains two references. (Author/GLR)

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DEMAND ESTIMATION FOR COLLEGIATE AVIATION ACADEMIC PROGRAMS

by

Phillips W. Goodell

Abstract

Forecasting student enrollment in a new academic program at a university is similar to forecasting the demand for a new product or service in a business environment. The prime question asked by academic administrators and private sector business managers alike is "How many customers will buy our offering?" This paper addresses the issue of how one might go about providing a reasonable answer to such a question. A combination of approaches is suggested, including the following: (1) potential enrollee "concept" interest survey, (2) analogy to similar program introductions, (3) underlying student enrollment trend analysis, and (4) survey of expert opinion. While such methods may provide the new course proponents with a theoretically "neat" package of estimates and probability ranges, the author suggests that the actual course sign-up is mainly the result of marketing follow-up.

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DEMAND ESTIMATION FOR COLLEGIATE AVIATION ACADEMIC PROGRAMS

Introduction

Tight academic budgets require extensive justification for new academic programs in most colleges. New programs in aviation management and technology are no exception. This paper suggests some techniques and approaches which a program manager may use when attempting to estimate demand for a new collegiate aviation program.

New Programs vs. New Products

The problem of estimating the demand for a new academic program is analogous to a private firm's estimation of the market for a new product or service. In both cases the potential "consumer" knows little or nothing about the new offering or how it will satisfy his or her needs. In the case of the private company, management requires a forecast of initial sales. Likewise, the academic program director must estimate initial and ongoing student enrollments. Commercial marketing research techniques can be used for this purpose, to help gauge student enrollment, interest and awareness in the new academic program in much the same manner that the private company determines its initial market penetration for a new product.

Reliance Upon Multiple Methods

Since the program is entirely new, past experience is an inadequate reference point upon which to base forecasts. Instead, the program manager may need to employ several approaches such as, (1) program concept testing, (2) analogy to similar programs, (3) underlying student enrollment trend analysis, and, (4) survey of expert opinion. By combining these approaches the enrollment demand forecast can be viewed from different perspectives and a more accurate range of estimates obtained.

Forecasts Are Not Enough

The academic program director is similar to the new product "champion" in industry. The director is not interested in merely preparing a forecast. Instead he or she is vitally concerned with the success of the program. In fact, the program director will likely want to "move heaven and earth" to see that the forecast is achieved. This being the case, the director will need to prepare a "marketing plan" for the program introduction. Such a plan will provide the proper communication, positioning and feedback to enhance success of the new program.

MULTIPLE ESTIMATION METHODS

Objectives of Multiple Methods

Multiple estimation approaches help the forecaster accommodate underlying trends and past experience with current student

attitudinal information. Measurements of trends provide a general picture of the social and economic environment which serve as the starting point to forecast existing, as well as new program enrollments. Surveys of student attitudes are particularly important in establishing probabilities of student interest in new, untested, programs.

FOUR CONCURRENT METHODS

Program "Concept Testing"

When a commercial new products manager wishes to evaluate a new product idea he or she may subject the product "concept" to a series of "tests" to determine how potential buyers and users will accept it. The academic program manager can use the principles of these evaluation approaches as a model.

Concept evaluation approaches cover a wide range of realism, but in principal, they all attempt to expose the product or service idea to the consumer and measure his or her reaction. The output of these tests provides the new product manager with advanced knowledge of the strengths and weaknesses of the concept long before heavy development costs are incurred. As the product progresses through the stages of technical development the customer evaluations can often parallel the technical process. The basic question to be answered is, "if potential users liked the idea in the original concept stage, do they still like the product as it takes shape during its actual development?"

Armed with information from the concept evaluation process, the commercial product and academic program managers alike are able to alter the offering to improve its market acceptance before full scale production or introduction. In addition, valuable forecast information has been obtained. During each stage of concept evaluation, potential users are questioned from several directions as to their interest in buying and owning the product for various uses and at different prices.

The academic program manager who conducts concept evaluation studies may or may not consider price an important variable. In any event he or she will obtain a "scaled" expression of "consumer" (student) interest in joining such a program if it is offered. The interest scale might be a Likert type where several answers given could range from, "I would definitely join the program," to "I would definitely not join the program." The percentage of respondents in the study who answer at each point along the "scale" would furnish probabilities for a Bayesian estimate of the number of students interest in the new program.

Analogy to Similar Program Introductions

The "track" record of similar programs introduced elsewhere may also serve as an important forecasting input. For example if a college in another state has recently introduced a similar program in aviation technology or management, their experience can be valuable in answering questions such as these: (a) "What is the most likely profile of the first students?" (b) "How many students

signed up the first year and how rapid was the enrollment build-up after that?" (c) "What did the students like and dislike about the program?" (d) "What were the initial problems and how were they solved?"

While commercial new products managers are unlikely to request such information from their competitors, academic organizations are generally pleased to share such experience. The information on the introduction of analogous academic programs can be very helpful in tempering any new program forecast.

Underlying Student Enrollment Trends

Each new aviation academic program forecast must take into account the enrollment levels and change rates of the host institution. "Market" for the new program will be composed primarily of current students who decide to choose or switch to the new program. Additional students will be attracted from the community or from new secondary school graduates. Enrollment from outside of the institution will be difficult to predict under any circumstances. However, enrollment from the current student body will be influenced (both positively and negatively) by current and forecast trends.

For this reason, the new program manager should consult existing college enrollment predictions for his own institution at the very outset of the forecasting process. The institution's current forecast should have considered regional and local demographic trends. This information may be supplemented by U.S.

Department of Labor occupation estimates and forecasts, as well as the local outlook for aviation industry employment requirements. These sources will provide macro social and economic inputs to the forecast process.

Survey of Expert Opinion

Personal discussions should be held with experienced individuals who represent a knowledge base concerning local academic enrollment and student placement matters and in the aviation community. These individuals will have opinions and suggestions as to the relative merits of the program, its employment opportunities, enrollment sources and likely popularity with the students. While these inputs are qualitative in nature, they will provide a real world temper to the forecast and may furnish ideas for potential enrollment sources and program improvements that had not been considered before.

FOLLOW-UP; MAKING THE FORECAST HAPPEN

Marketing Plan for Program Introduction

Once a new program has been carefully designed, approved and the forecast committed, the program manager is not finished. In fact, the academic program manager (like the new product manager in a firm) needs a plan for introducing his new academic aviation program to the "market." Students are prospective "customers" for

aviation education just as aviators are sales prospects for new airplanes.

The new program must be introduced to the market and given special promotional attention since "consumer" (student) awareness will be low at first. In fact, a promotional plan should be drawn up and specially funded. "Advertising" notices may be employed in community and school newspapers and course schedules. Personal appearances by course instructors and the program director can be made at local secondary schools and before underclass or new enrollees at the college.

A mailable brochure with complete information on course offerings and entry requirements (along with a return mail application) can be very effective. Brochures can be distributed at aviation group meetings, air shows, local secondary schools and at the university counseling or registration center.

A local advisory council comprised of pilots, aircraft manufacturers, FBO and airline executives can assist in providing outside speakers, advise, publicity and sometimes financial or equipment resources and experiences. College aviation flight clubs may also be formed to enhance student interest in the field of aviation and the new academic program.

Tracking, Communications, Documentation

Finally, once the collegiate aviation program is launched, the program manager will want to keep track of all of the vital information needed to evaluate its success. This will include a

reporting system to log and respond to inquiries as well as a name database for future contacts and mailings. Complete participant records should be maintained for the alumni organization so that graduates can become an effective support group for the program in the future.

In short, the success of the new collegiate aviation program and the fulfillment of the original forecasts will depend greatly upon the extra measure of effort devoted by the program manager and interested instructors. Forecasts of demand for any program can be enhanced by combining several different forecasting methods. In the end, these efforts and the overall promotional strategy and follow-up are the ingredients that will make it all happen.

References

1. For information concerning the new products testing and development process see: New Products Management (3rd Ed.) by Merle C. Crawford, Irwin Publishing Co., 1990.
2. Information on the current labor market demand for various occupations (including aviation), consult the U.S. Department of Labor's Occupational Handbook, U.S. Government Printing Office, Current Year.